USB INTERFACED VEHICLE PHONOGRAPHIC EQUIPMENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to vehicle phonographic equipments, and more particularly, it relates to a vehicle phonographic equipment provided with a USB interface jack disposed at one end opening in the main body thereof, so that data transmitting or power securing is possible.

2. The Prior Arts

[0002] When reviewing back the industry progress in human history, the invention of steam engine by James Watt (1736-1819), which is generally referred as the first industry revolution, has driven the automobile industry to advance for at least 100 years to result in today's booming of the industry. Then, computer, which has changed people's daily life for the following decades, is undoubtedly considered the star shinning the most in the second industry revolution to convert our life from an analog era into a digital era. In the third industry revolution, which is also referred as the web revolution, people have started to learn for exchanging data on-line from computer to computer, however, integration is so far still needed to unite a computer and an automobile.

[0003] In the real life, people are always longing for an automobile with more new functions and with effective connection to a computer via, for example, a USB (universal serial bus) interface, so that it becomes possible for people to download MP3 music through the USB interface and play the music by a portable on-car player. More than this, it is also possible for people to detect internal state of an automobile and store the data in a USB interfaced memory device, then transmit the same to an automobile maintenance center for computer diagnosis. Besides, a driver can operate a cellular phone through a USB interface and uses automobile phonographic equipment for a hand-free talk for promoting traffic security. After all, there is no difficult at all for people to match or communicate an automobile, as long as it is

offered with automobile phonographic equipment having a USB interface, with any product available in market equipped with a USB interface.

[0004] In many cases, the cigarette lighting jack is considered the most convenient power source for on-car electronic devices. However, this power source is found defective in the following respects:

[0005] (1) As the cigarette lighting jack always continues supplying power even after engine is stopped, dangers may be thus caused in the duration when the driver leaves away for a while.

[0006] (2) As the cigarette lighting jack always continues supplying power even after engine is stopped, an electronic device connected with the jack keeps on consuming power of the battery and as a consequence, making the battery gradually run out of power.

[0007] The cigarette lighting jack is more or less unsightly and a little bit too far from the dashboard to use.

[0008] For improving the defects, we have here a secure 5V power source provided by automobile phonographic equipment to therefore by-pass the power given by the cigarette lighting jack.

SUMMARY OF THE INVENTION

[0009] The present invention discloses a USB interfaced vehicle phonographic equipment, which is capable of securing power through any USB interfaced current information product, such as a PDA, a cellular phone, a USB interfaced video recorder, or a USB interfaced HDD, and fetching data or music songs.

[0010] Therefore, the primary object of the present invention is to provide a USB interfaced vehicle phonographic equipment capable of securing power through a USB interfaced information product.

[0011] Another object of the present invention is to provide a USB interfaced vehicle phonographic equipment having a USB jack for plugging to connect with a

portable USB interfaced product, such as a cellular phone, a PDA, a portable MP3 player, etc., for fetching diagram files, films, written data, and music songs.

[0012] For more detailed information regarding advantages or features of the present invention, at least an example of preferred embodiment will be described below with reference to the annexed drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The related drawings in connection with the detailed description of the present invention to be made later are described briefly as follows, in which:

[0014] Figure 1 is a perspective view of a USB interfaced vehicle phonographic equipment of the present invention; and

[0015] Figure 2 shows a block diagram of a circuit of the USB interfaced vehicle phonographic equipment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0016] With reference to the drawings and in particular to Figure 1, a USB interfaced vehicle phonographic equipment of the present invention comprises a main body of phonographic equipment **1** having at least two end openings **10**, one of which is provided for penetratingly disposing a USB interface jack **100**, so that a USB device **2** is insertable and thus fixed for data transmission of diagram files, films, written data, music songs, and the likes, or for power input. The USB device **2** can be an MP3 player, a portable data storage device (a pocket disk for example), a cellular phone, or a PDA (personal digital assistant).

[0017] On a central upper portion of the front face of the main body of phonographic equipment **1**, a liquid-crystal displayer **14** is located for showing necessary information to a user, and a plurality of pushbuttons **16** on the right portion of the front face of the main body of phonographic equipment **1** is provided for the user to input commands for changing the operation mode of the present invention.

[0018] Also referring to Figure 2, the casing of the main body of phonographic equipment **1** is united with an inside circuit board (not shown). The circuit board comprises a USB interface control unit **31**, a CD/VCD input and process unit **33**, a CD/VCD control unit **34**,a panel control unit **35**,a sound-output unit **36**, a display unit **37**, and a microprocessor unit **38**.

[0019] The USB interface control unit **31** has one end electrically connected with a USB interface jack **32** so as to facilitate the insertion of the USB device **2** for performing data transmission of diagram files, films, written data, music songs, and the likes, or for power input. In this case, the chip M5271 with code M5271, A0, 0214 TS05, XK6035770BTA of a local company Ali is adopted.

[0020] The CD/VCD input and process unit **33** could be a CD/VCD read/write head for reading data on a CD/VCD, including diagram files, films, written data, or music songs.

[0021] The CD/VCD control unit **34** could be a DVD player chipset or a CD-R/RW chipset - 24/12/48 CD-R/RW chipset, which is electrically connected with the CD/VCD input and process unit **33** or controlling reading action of the latter. In this case, the chip M5705A1, 0130 TH05, XHAQ96000N0E of Ali is adopted.

[0022] The panel control unit **35** comprises a plurality of pushbuttons for a user to input commands to change the operation mode.

[0023] The sound-output unit **36** could be a speaker for playing music or warning.

[0024] The display unit **37** could be a liquid crystal display for showing data of the present operation.

[0025] The microprocessor unit **38** could be a 32-bit microprocessor connected with the USB interface control unit **31**, the CD/VCD control unit **34**, the panel control unit **35**, the sound-output unit **36**, and the display unit **37**, respectively, for control of different actions. In this case, a processor chip arm920T under Thumb extension framework of Arm Co. is adopted.

[0026] In the above described, at least one preferred embodiment has been described in detail with reference to the drawings annexed, and it is apparent that

numerous changes or modifications may be made without departing from the true spirit and scope thereof, as set forth in the claims below.